ters in height, occupying an area which a little more than forty years ago the owner used for a hay meadow.

I need not cite further cases. No one who has seen and studied the forest areas in eastern Nebraska, will be able to doubt that they are spreading where they are given a fair opportunity and are not prevented by man or his domestic animals.

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PRELIMINARY NOTE ON NEW METEORITES FROM ALLEGAN, MICHIGAN AND MART, TEXAS.

A little after 8 o'clock on the morning of July 10, 1899, there fell on what is locally known as Thomas Hill, on the Saugatuck road, in Allegan, Michigan, a stony meteorite, the total weight of which cannot have been far from 70 pounds, although unfortunately it was badly shattered in striking the ground and its exact weight can never be known. The main mass of the stone, which came into the possession of the National Museum, weighed 62½ pounds, with an additional fragment weighing about 1½ pounds. These with a 4 pound fragment sold to other parties, and very many small bits stated as varying from the size of a pea to that of a hickory nut, carried away by school children and others, would readily bring the total weight up to the figure mentioned. According to the as yet unverified statement of a paper, the fall was accompanied by a 'sudden report, like that of a distant cannon,' this being immediately followed by a rumbling rushing noise similar to distant thunder with the addition of a hissing noise. Eye witnesses of the fall describe the stone as descending in a nearly vertical direction with an apparently slight incline from north to west. A slight bluish tinge and hazy appearance was noted, but no luminosity, though that the stone must have been highly heated in its passage through the atmosphere is proven by its being completely covered by a beautiful black crust, of about 2 mm. thickness. However this may be it was evidently scarcely more than warm when it reached the surface of the ground, for fibers of dry grass, leaves and roots which became firmly attached to its surface through impact, or even driven into crevices formed by the shock of striking the ground, were not charred in the least. The stone is reported to have been about 18 inches long and 12 inches thick, and to have buried itself in the ground by 18 inches where it fell. It was immediately exhumed, and is stated to have been 'still warm' when placed in the show windows of Messrs. Stern & Company, local clothing dealers.

The stone as received at the Museum is polyhedral in outline, one end badly shattered, the larger surfaces often somewhat convex, and as above noted covered with a thin black crust which is irregularly checked by contraction and the shock of the fall. The structure is chondritic, and the essential constituents olivine and an orthorhombic pyroxene (enstatite), together with very finely disseminated metallic iron and undetermined sulphides. A causal inspection fails to make certain the presence of feldspars. The stone therefore belongs to group 29, Kügelchen Chondrit (Cc), of Brezina. The texture is very fine, and uniform throughout, the chondrules, often beautiful spherical, rarely exceeding 2 mm. in diameter. These are sometimes wholly of radiating enstatites, or again of idiomorphic olivines in a black glass. The mass is very friable, and though beautifully fresh and unoxidized, falls away readily to sand when pressed between the thumb and fingers.

As stated in Science for November 10th, the stone will be analyzed and studied microscropically, after which it will be in

part broken up and offered in exchange for other materials of like nature. It will be known as the Allegan meteorite.

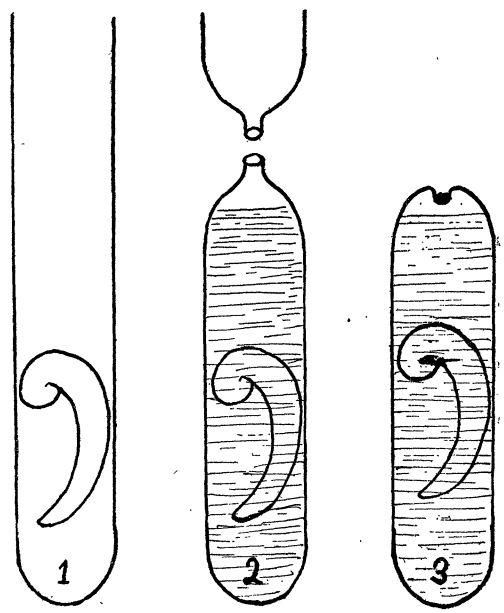
The second meteorite to which I have referred, is an iron, the main mass of which is now in the possession of Baylor University, Waco, Texas. It was found early in 1898, on Vaughn's farm, near Mart, in McLennan County. The iron weighed originally 19¾ pounds. The shape is an irregular oval, some 21.5 x 15 x 8.5 mm. in greatest dimensions, with two deep pits on one side. It was not seen to fall and is somewhat oxidized exteriorly. When cut and etched it shows well the Widmanstätten figures, and the presence of numerous spots of troilite scarcely a millimeter in diameter. This will be known as the Mart iron. Both the iron and the Allegan stone will be analyzed in the laboratories of the United States Geological Survey.

GEORGE P. MERRILL.

PERMANENT PREPARATIONS IN HERMETICALLY SEALED TUBES.

THE method of keeping various animals for demonstration and illustration in hermetically sealed tubes here to be noted has been in use in my laboratory for several years and proven itself so convenient and useful that I feel if it has ever been advocated before (of which I am not cognizant), it deserves revival, hence this note.

In brief the method is as follows: Glass tubing of a size just admitting the specimen is selected considerably longer than the final sealed tube is to be. One end is closed with or without a foot. The tube is then filled with 80% (or 70%) alcohol and the specimen is introduced, allowing it to drop down or carefully working it down the tube. Nearly all the alcohol is then poured off (Fig. 1). Specimens too delicate to admit of this must, of course, be kept covered with alcohol and the final tube be somewhat longer than necessary. The tube is now drawn to a point at some distance from the object and is broken off at the narrow neck (Fig. 2) so as to leave as small an opening as possible through which the tube can be filled up to or even above the shoulder of the drawn end. When the tube is filled the end is sealed in the Bunsen flame (Fig. 3). For filling the tube



finally one needs a 'tube-funnel' with a long small end that can be inserted into the neck of the tube.

Care must be taken to get the tube out of the flame before the expansion of the vapors becomes too great. When quickly done the sealed end will often be invaginated by the pressure from without, thus making an end not liable to have the button or bead broken off. In heating the tube after it has contained alcohol inflammable vapors will, of course, be formed. These are usually driven off with an explosion that one soon learns is not at all dangerous.

The secret of success lies in as small a neck as will admit filling and a strong heat applied quickly at the very end.

I have found Flemming's mixture of alcohol, glycerine and water usually better than pure alcohol. This mixture vaporizes less rapidly and as is well known keeps objects in excellent consistency.